# METHODS OF FABRICATING LIGHT EMITTING DEVICES USING MESA REGIONS AND PASSIVATION LAYERS

## Abstract of the Disclosure

Light emitting diodes include a substrate, an epitaxial region on the substrate that includes therein a diode region and a multilayer conductive stack on the epitaxial region opposite the substrate. A passivation layer extends at least partially on the multilayer conductive stack opposite the epitaxial region, to define a bonding region on the multilayer conductive stack opposite the epitaxial region. The passivation layer also extends across the multilayer conductive stack, across the epitaxial region and onto the substrate. The multilayer conductive stack can include an ohmic layer on the epitaxial region opposite the substrate, a reflector layer on the ohmic layer opposite the epitaxial region and a tin barrier layer on the reflector layer opposite the ohmic layer. An adhesion layer also may be provided on the tin barrier layer opposite the reflector layer. A bonding layer also may be provided on the adhesion layer opposite the tin barrier layer. A submount and a bond between the bonding layer and the submount also may be provided.